MONTANA
Department of Public Health & Human Services

Immunization Program

Data Logger
Instruction Manual

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INTRODUCTION

The Montana Immunization Program requires Vaccines for Children (VFC) providers to have a certified calibrated, continuously monitoring thermometer in each vaccine storage unit and supplies EL-USB-2-LCD Data Loggers to fulfill this requirement. Data Loggers are electronic thermometers that continuously record and store temperature readings and indicate through a warning light when out-of-range temperatures have been encountered. Data Loggers interface with a computer so that temperature data can be removed from the device and saved.

This document is a step-by-step instruction guide for using Data Loggers in the Montana VFC Program. For technical assistance using your Data Logger, contact our supplier:

You can also contact the Montana Immunization Program at 444-5580 hhsiz@mt.gov .
Temperature logs and Vaccine Incident Reports can be obtained from our website at www.immunization.mt.gov under the VFC link.
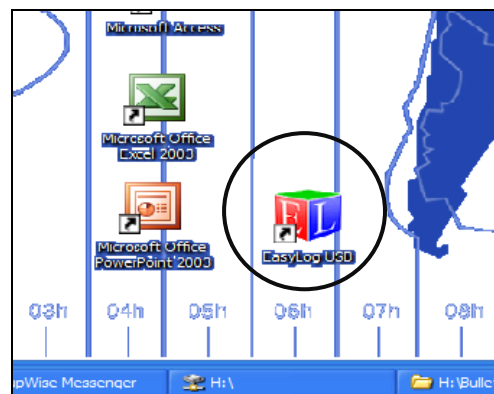
REQUIRED ITEMS

- State-supplied Data Logger with an extra battery, acrylic cap and stand, small CD with software, and *Quick Start Guide*

- Windows-based computer with USB port

- Temperature Logs and Vaccine Incident Reports (available on our website at www.immunization.mt.gov under the VFC link)

LOADING SOFTWARE

1. Install the Data Logger software by following the *Quick Start Guide* that came with your device. Start with Step 2, since your Data Logger has a pre-installed battery. Please note that you also have an extra battery.

2. At Step 4 of the *Quick Start Guide*, double-click on the EasyLog USB icon on your desktop and use the following instructions to set up your device.
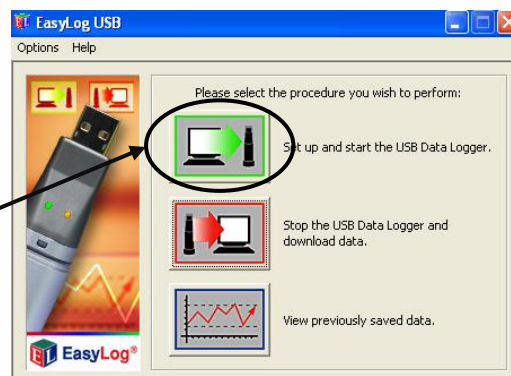
DATA LOGGER SET-UP

Set-up your Data Logger before first use and after downloading data by following the instructions below:

3. If it is not already running, launch the Data Logger software by double clicking on the EasyLog USB icon on your desktop.

   Remove the acrylic cap and insert the Data Logger into the USB port of your computer.

   From the EasyLog USB main menu, click on the green arrow icon "Set up and start the USB Data Logger."

4. Name your Data Logger. Differentiate your freezer and refrigerator devices in the name and by marking "R" or "F" on the outside of the device.
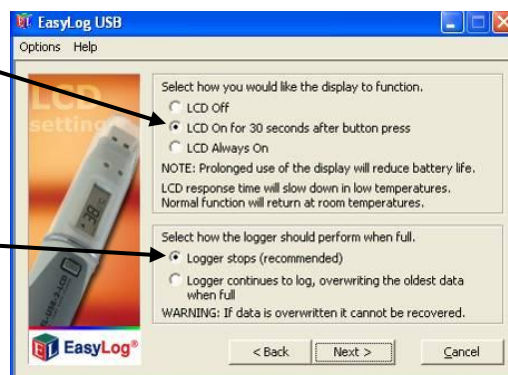
   Set the device to read in either Celsius (C°) or Fahrenheit (F°). Be sure to obtain a temperature log from our website (www.immunization.mt.gov) specific to the selected temperature scale (C or F).

   Select a sample rate of "5 Min (56 days)." The sample rate is how often your Data Logger records the temperature. The number in parentheses is the number of days of data the device can store at that sample rate. Click "Next."
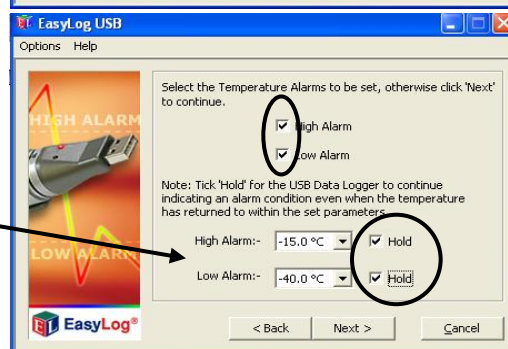
5. On this screen, set the display function by selecting "LCD on for 30 seconds after button pressed." This setting will save battery power by inactivating the LCD display except when you press the button twice a day to read the temperature.

   On the same screen, select the "Logger stops (recommended)" setting to prevent data from being overwritten if the device memory is full. Click "Next."

6. On the next screen, set your high and low alarm points by first checking the boxes.
   Then set the temperature for each alarm point as follows:

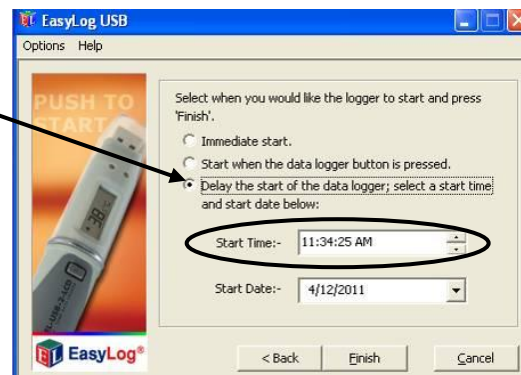 | | | | |
   |---|---|---|---|
   | **Refrigerator:** | Celsius | High 8° | Low 2° |
   | | Fahrenheit | High 46° | Low 35° |
   | **Freezer:** | Celsius | High -15° | Low -40° |
   | | Fahrenheit | High 5° | Low -40° |

   Check "Hold" for each alarm point. Click "Next."

7. Skip the next screen. Humidity and dew point are not monitored in vaccine storage units. Click "Next."

8. On the final screen, set the start mode for your Data Logger by selecting "Delay the start of the Data Logger…."

   Set the start time one hour from the current time. This is important. If the Data Logger starts recording before it has acclimated in the storage unit, it will register out-of-range temperatures and activate the out-of-range temperature light.

   Click "Finish" and then "OK." Your Data Logger is now ready for use.

9. Immediately remove the Data Logger from your computer, replace the acrylic cap, set it in the acrylic stand, and centrally locate the device in the storage unit near your VFC vaccine.

   Be sure to put the Data Logger set for the refrigerator in the refrigerator and the Data Logger set for the freezer in the freezer.

   As with your vaccine, keep the Data Logger away from ceilings, walls, vents, fans, and coils.

READING YOUR DATA LOGGER

Data Logger temperatures must be checked and recorded on a temperature log **twice daily** along with the status of the out-of-range temperature indicator light.

10. To check the temperature, press the button on the side of the Data Logger ONCE. The current temperature will appear on the LCD display (the display may be slightly delayed in freezer devices due to the low temperature).

    If you press the button more than once, a reading *other than* current temperature will display. If this happens, wait 30 seconds for the display to disappear. Then press ONCE again to get the current temperature display.

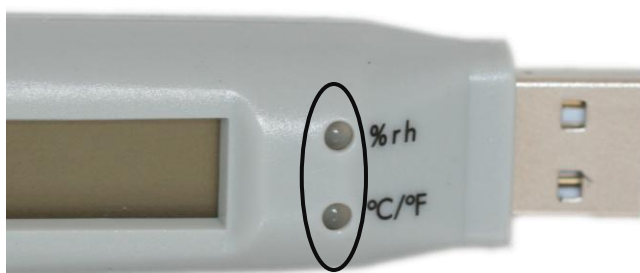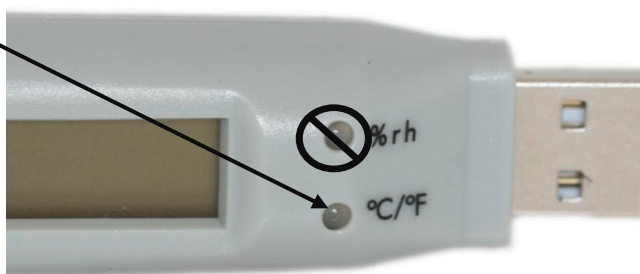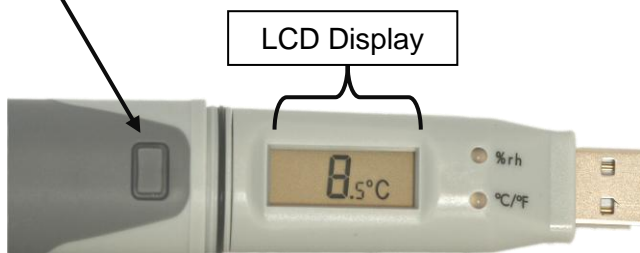   Mark the temperature on the temperature log.

11. After logging the temperature, check the status of the LED light next to the C°/F° symbol. (You may have to wait 10–15 seconds for the light to blink.)

    If the light blinks <u>green</u>, place an X in the appropriate place on the temperature log.

    If the light blinks <u>red</u>, out-of-range temperatures have been encountered. Immediately download and review the Data Logger data by following the instructions in the next section.

    Do not monitor the light next to the relative humidity symbol (%rh). Relative humidity is not tracked in vaccine storage units.

12. If both lights blink red every 60 seconds, the Data Logger battery is low and should be replaced.

DOWNLOADING, REVIEWING, AND SAVING DATA

Data Logger data must be downloaded, reviewed and saved at **least once per month** or whenever the out-of-range temperature indicator blinks red.
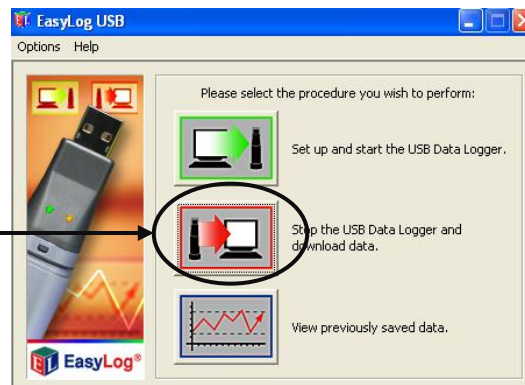
13. Launch the Data Logger software by double clicking on the EasyLog USB icon on your desktop.

    Connect your Data Logger to a USB port on your computer.

    Click on the red arrow icon "Stop the USB Data Logger and download data."

    Answer "Yes" on the pop-up window. On the next screen, click "OK."

    Please note: If your battery is low, you will get a low battery warning when you plug the Data Logger into your computer. Replace the battery if this occurs.
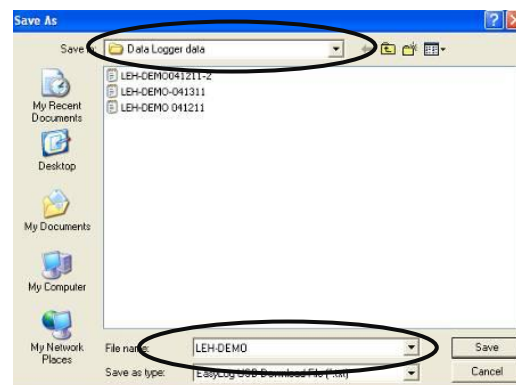
14. On the next screen, choose where you will store your data.

    Give the current file a name. The name field will automatically fill with the device name. We recommend adding the date.
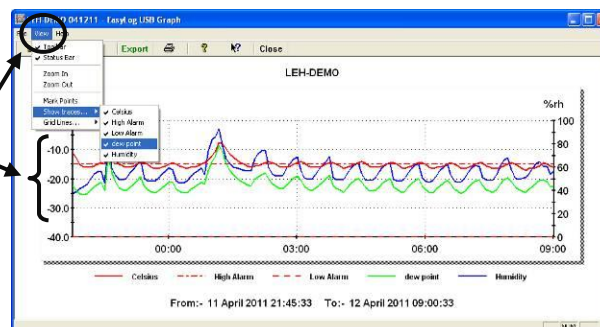   (Example: "VFC Refrigerator 04-12-2011")

    Click "Save." The file will be saved in the location specified.

15. After saving the data file, a graph will launch with traces for temperature, dew point, humidity, high alarm, and low alarm.

    Remove the dew point and humidity traces by clicking on View>>Show traces and unchecking the dew point and humidity boxes.
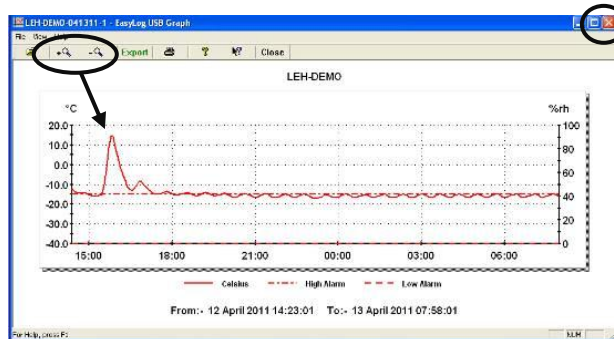
16. Review the temperature data. Use the magnifying tool to examine any out-of-range readings.
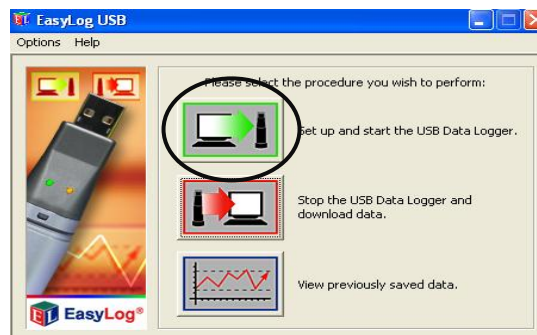
    Immediately obtain a Vaccine Incident Report (www.immunization.mt.gov) and follow the instructions when out-of-range temperatures occur*. Also contact the Immunization Program (444-5580 hhsiz@mt.gov)

    *Please Note: Frost-free freezers cycle to warmer temperatures approximately 4 times per day. This is acceptable for vaccine storage as long as the temperatures do not rise above 14°F or -10°C. If necessary, you can adjust your high alarm threshold to accommodate these cycles. If your freezer cycles more than 5 times per day or reaches temperatures above 14°F or -10°C, obtain a Vaccine Incident Report and contact the Immunization Program (444-5580 hhsiz@mt.gov).

    After saving and reviewing the data, close the graph by clicking on the red X in the right corner. This returns you to the EasyLog USB main menu.

17. Reset the Data Logger and return it to the storage unit by following the instructions under "Data Logger Setup" on page 4.

18. To review previously saved data, launch the EasyLog USB software and click on the graph icon "View previously saved data."

    This will take you to the folder containing your saved data. Select a file and click "Open." The graph will launch.

19. You are not required to send your Data Logger data to the Immunization Program. However, you may need to send your data if a temperature excursion occurs.

    To send Data Logger data to the Immunization Program, attach the data file to an email or print and Fax the graph.

    Contact the Immunization Program (444-5580 hhsiz@mt.gov) before sending your data for review.